

MAGIEC Project – University of Toronto

Join an International Research Consortium on Blue Carbon Ecosystems

The Biogeochemistry Research Group at the **University of Toronto**, led by **Maria Dittrich**, is seeking outstanding candidates for:

One Postdoctoral Fellow (2-year position, see below) and One PhD Student

Both positions are part of the newly funded international project: **MAGIEC – Mudflats Across Gradients of Human Impact and Environmental Extreme: Blue Carbon Dynamics**. MAGIEC is an international collaboration (Canada, Ireland and Poland) investigating how environmental extremes and human activities influence carbon cycling, greenhouse gas dynamics, microbial processes, mineral interactions, and ecosystem functioning in coastal mudflat environments. The project integrates geochemistry, geomicrobiology, ecology, environmental monitoring, and interdisciplinary approaches to support science-based coastal management.

Postdoctoral Fellow Position

Research Focus

The successful candidate will contribute to the development of innovative research on blue carbon processes in coastal ecosystems, with opportunities to:

- Investigate sediment biogeochemistry and carbon sequestration processes
- Study microbial and geochemical controls on carbon cycling
- Analyze greenhouse gas fluxes and environmental drivers
- Conduct field and laboratory experiments
- Collaborate with international partners across Europe and Canada
- Publish in leading international journals
- Mentor graduate and undergraduate students

Qualifications

- A PhD in Environmental Science, Earth Sciences, Marine Science, Geochemistry, Microbiology, Ecology, or a related discipline
- Demonstrated publication record
- Experience with field and laboratory research; strong quantitative and analytical skills
- Excellent written and oral communication skills
- Ability to work effectively within an interdisciplinary and international team

Term

- Initial appointment: **12 months**
- Renewable for an additional 12 months contingent upon performance and project needs

PhD Position

Research Focus

The PhD project will investigate processes controlling blue carbon storage and cycling in coastal mudflat environments. Potential topics include:

- Sediment-water interface processes
- Microbial ecology and geomicrobiology
- Carbon sequestration mechanisms
- Mineral-organic interactions
- Environmental DNA and ecosystem monitoring
- Coastal ecosystem responses to environmental change

The student will work closely with an international consortium and will have opportunities for international collaboration, conference participation, and interdisciplinary training.

Qualifications:

- An MSc degree in Environmental Science, Earth Sciences, Biology, Marine Science, Geochemistry, or a related field
- Strong academic record and excellent communication skills
- Interest in interdisciplinary research
- Experience with laboratory and/or field techniques is an asset

Working Environment

The successful candidates will join the Biogeochemistry Research Group at the University of Toronto, one of Canada's leading research-intensive universities. Team members will benefit from 1) An inclusive, collaborative, and international research environment; 2) Access to state-of-the-art analytical facilities; 3) Opportunities for international fieldwork and collaboration; 4) Professional development and networking opportunities; 5) Participation in a large international blue carbon research consortium

Application includes, in one PDF file:

1. Cover letter describing research interests and fit for the position
2. Curriculum Vitae
3. Copies of academic transcripts (PhD applicants)
4. Contact information for three references
5. One representative publication (Postdoctoral applicants)

Application Deadline

Review of applications will begin immediately and continue until the positions are filled.

Contact: Prof. Maria Dittrich, University of Toronto, Email: m.dittrich@utoronto.ca